

(3) American Petroleum Institute (API) Section 2, "Conventional Pipe Provers," Section 3, "Small Volume Provers," and Section 5, "Master-Meter Provers," from Chapter 4 of the Manual of Petroleum Measurement Standards, October 1988 (Reaffirmed 1993), for appendix D to this part.

[58 FR 3701, Jan. 11, 1993, as amended at 60 FR 26517, May 17, 1995; 61 FR 59157, Nov. 20, 1996; 63 FR 57499, Oct. 27, 1998; 64 FR 28589, May 26, 1999]

§ 75.7–75.8 [Reserved]

Subpart B—Monitoring Provisions

§ 75.10 General operating requirements.

(a) *Primary Measurement Requirement.* The owner or operator shall measure opacity, and all SO₂, NO_x, and CO₂ emissions for each affected unit as follows:

(1) The owner or operator shall install, certify, operate, and maintain, in accordance with all the requirements of this part, a SO₂ continuous emission monitoring system and a flow monitoring system with the automated data acquisition and handling system for measuring and recording SO₂ concentration (in ppm), volumetric gas flow (in scfh), and SO₂ mass emissions (in lb/hr) discharged to the atmosphere, except as provided in §§ 75.11 and 75.16 and subpart E of this part;

(2) The owner or operator shall install, certify, operate, and maintain, in accordance with all the requirements of this part, a NO_x continuous emission monitoring system (consisting of a NO_x pollutant concentration monitor and an O₂ or CO₂ diluent gas monitor) with the automated data acquisition and handling system for measuring and recording NO_x concentration (in ppm), O₂ or CO₂ concentration (in percent O₂ or CO₂) and NO_x emission rate (in lb/mmBtu) discharged to the atmosphere, except as provided in §§ 75.12 and 75.17 and subpart E of this part. The owner or operator shall account for total NO_x emissions, both NO and NO₂, either by monitoring for both NO and NO₂ or by monitoring for NO only and adjusting the emissions data to account for NO₂;

(3) The owner or operator shall determine CO₂ emissions by using one of the

following options, except as provided in § 75.13 and subpart E of this part:

(i) The owner or operator shall install, certify, operate, and maintain, in accordance with all the requirements of this part, a CO₂ continuous emission monitoring system and a flow monitoring system with the automated data acquisition and handling system for measuring and recording CO₂ concentration (in ppm or percent), volumetric gas flow (in scfh), and CO₂ mass emissions (in tons/hr) discharged to the atmosphere;

(ii) The owner or operator shall determine CO₂ emissions based on the measured carbon content of the fuel and the procedures in appendix G of this part to estimate CO₂ emissions (in ton/day) discharged to the atmosphere; or

(iii) The owner or operator shall install, certify, operate, and maintain, in accordance with all the requirements of this part, a flow monitoring system and a CO₂ continuous emission monitoring system using an O₂ concentration monitor in order to determine CO₂ emissions using the procedures in appendix F of this part with the automated data acquisition and handling system for measuring and recording O₂ concentration (in percent), CO₂ concentration (in percent), volumetric gas flow (in scfh), and CO₂ mass emissions (in tons/hr) discharged to the atmosphere; and

(4) The owner or operator shall install, certify, operate, and maintain, in accordance with all the requirements in this part, a continuous opacity monitoring system with the automated data acquisition and handling system for measuring and recording the opacity of emissions (in percent opacity) discharged to the atmosphere, except as provided in §§ 75.14 and 75.18.

(b) *Primary Equipment Performance Requirements.* The owner or operator shall ensure that each continuous emission monitoring system required by this part meets the equipment, installation, and performance specifications in appendix A to this part; and is maintained according to the quality assurance and quality control procedures in appendix B to this part; and shall record SO₂ and NO_x emissions in the

appropriate units of measurement (i.e., lb/hr for SO₂ and lb/mmBtu for NO_x).

(c) *Heat Input Measurement Requirement.* The owner or operator shall determine and record the heat input to each affected unit for every hour or part of an hour any fuel is combusted following the procedures in appendix F to this part.

(d) *Primary equipment hourly operating requirements.* The owner or operator shall ensure that all continuous emission and opacity monitoring systems required by this part are in operation and monitoring unit emissions or opacity at all times that the affected unit combusts any fuel except as provided in § 75.11(e) and during periods of calibration, quality assurance, or preventive maintenance, performed pursuant to § 75.21 and appendix B of this part, periods of repair, periods of backups of data from the data acquisition and handling system, or recertification performed pursuant to § 75.20. The owner or operator shall also ensure, subject to the exceptions above in this paragraph, that all continuous opacity monitoring systems required by this part are in operation and monitoring opacity during the time following combustion when fans are still operating, unless fan operation is not required to be included under any other applicable Federal, State, or local regulation, or permit. The owner or operator shall ensure that the following requirements are met:

(1) The owner or operator shall ensure that each continuous emission monitoring system and component thereof is capable of completing a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-min interval. The owner or operator shall reduce all SO₂ concentrations, volumetric flow, SO₂ mass emissions, SO₂ emission rate in lb/mmBtu (if applicable), CO₂ concentration, O₂ concentration, CO₂ mass emissions (if applicable), NO_x concentration, and NO_x emission rate data collected by the monitors to hourly averages. Hourly averages shall be computed using at least one data point in each fifteen minute quadrant of an hour, where the unit combusted fuel during that quadrant of an hour. Notwithstanding this requirement, an

hourly average may be computed from at least two data points separated by a minimum of 15 minutes (where the unit operates for more than one quadrant of an hour) if data are unavailable as a result of the performance of calibration, quality assurance, or preventive maintenance activities pursuant to § 75.21 and appendix B of this part, backups of data from the data acquisition and handling system, or recertification, pursuant to § 75.20. The owner or operator shall use all valid measurements or data points collected during an hour to calculate the hourly averages. All data points collected during an hour shall be, to the extent practicable, evenly spaced over the hour.

(2) The owner or operator shall ensure that each continuous opacity monitoring system is capable of completing a minimum of one cycle of sampling and analyzing for each successive 10-sec period and one cycle of data recording for each successive 6-min period. The owner or operator shall reduce all opacity data to 6-min averages calculated in accordance with the provisions of part 51, appendix M of this chapter, except where the applicable State implementation plan or operating permit requires a different averaging period, in which case the State requirement shall satisfy this Acid Rain Program requirement.

(3) Failure of an SO₂, CO₂, or O₂ pollutant concentration monitor, flow monitor, or NO_x continuous emission monitoring system to acquire the minimum number of data points for calculation of an hourly average in paragraph (d)(1) of this section shall result in the failure to obtain a valid hour of data and the loss of such component data for the entire hour. An hourly average NO_x or SO₂ emission rate in lb/mmBtu is valid only if the minimum number of data points is acquired by both the pollutant concentration monitor (NO_x or SO₂) and the diluent monitor (O₂ or CO₂). For a moisture monitoring system consisting of one or more oxygen analyzers capable of measuring O₂ on a wet-basis and a dry-basis, an hourly average percent moisture value is valid only if the minimum number of data points is acquired for both the wet-and dry-basis measurements. Except for SO₂ emission rate

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data in lb/mmBtu, if a valid hour of data is not obtained, the owner or operator shall estimate and record emissions, moisture, or flow data for the missing hour by means of the automated data acquisition and handling system, in accordance with the applicable procedure for missing data substitution in subpart D of this part.

(e) *Optional backup monitor requirements.* If the owner or operator chooses to use two or more continuous emission monitoring systems, each of which is capable of monitoring the same stack or duct at a specific affected unit, or group of units using a common stack, then the owner or operator shall designate one monitoring system as the primary monitoring system, and shall record this information in the monitoring plan, as provided for in § 75.53. The owner or operator shall designate the other monitoring system(s) as backup monitoring system(s) in the monitoring plan. The backup monitoring system(s) shall be designated as redundant backup monitoring system(s), non-redundant backup monitoring system(s), or reference method backup system(s), as described in § 75.20(d). When the certified primary monitoring system is operating and not out-of-control as defined in § 75.24, only data from the certified primary monitoring system shall be reported as valid, quality-assured data. Thus, data from the backup monitoring system may be reported as valid, quality-assured data only when the backup is operating and not out-of-control as defined in § 75.24 (or in the applicable reference method in appendix A of part 60 of this chapter) and when the certified primary monitoring system is not operating (or is operating but out-of-control). A particular monitor may be designated both as a certified primary monitor for one unit and as a certified redundant backup monitor for another unit.

(f) *Minimum measurement capability requirement.* The owner or operator shall ensure that each continuous emission monitoring system and component thereof is capable of accurately measuring, recording, and reporting data, and shall not incur an exceedance of the full scale range, except as provided

in sections 2.1.1.5, 2.1.2.5, and 2.1.4.3 of appendix A to this part.

[58 FR 3701, Jan. 11, 1993, as amended at 60 FR 26519, May 17, 1995; 64 FR 28590, May 26, 1999]

§ 75.11 Specific provisions for monitoring SO₂ emissions (SO₂ and flow monitors).

(a) *Coal-fired units.* The owner or operator shall meet the general operating requirements in § 75.10 for an SO₂ continuous emission monitoring system and a flow monitoring system for each affected coal-fired unit while the unit is combusting coal and/or any other fuel, except as provided in paragraph (e) of this section, in § 75.16, and in subpart E of this part. During hours in which only gaseous fuel is combusted in the unit, the owner or operator shall comply with the applicable provisions of paragraph (e)(1), (e)(2), or (e)(3) of this section.

(b) *Moisture correction.* Where SO₂ concentration is measured on a dry basis, the owner or operator shall either:

(1) Report the appropriate fuel-specific default moisture value for each unit operating hour, selected from among the following: 3.0%, for anthracite coal; 6.0% for bituminous coal; 8.0% for sub-bituminous coal; 11.0% for lignite coal; 13.0% for wood; or

(2) Install, operate, maintain, and quality assure a continuous moisture monitoring system for measuring and recording the moisture content of the flue gases, in order to correct the measured hourly volumetric flow rates for moisture when calculating SO₂ mass emissions (in lb/hr) using the procedures in appendix F to this part. The following continuous moisture monitoring systems are acceptable: a continuous moisture sensor; an oxygen analyzer (or analyzers) capable of measuring O₂ both on a wet basis and on a dry basis; or a stack temperature sensor and a moisture look-up table, i.e., a psychometric chart (for saturated gas streams following wet scrubbers or other demonstrably saturated gas streams, only). The moisture monitoring system shall include as a component the automated data acquisition and handling system (DAHS) for recording and reporting both the raw